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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/560,888

05/30/2006

Francesco D'Oria

07040.0243

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7590

03/31/2010

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EXAMINER

KNABLE, GEOFFREY L

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/31/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/560,888 | Applicant(s) D'ORIA ET AL. | |
| | Examiner Geoffrey L. Knable | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/22/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/2010 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 17-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 2003/0025238) taken in view of at least one of [Ekins (US 2,732,102 - newly cited), Coupland (US 3,526,929 - newly cited), Harris (US 2005/0017387), and Blieberger (US 3,854,629)], and optionally further in view of at least one of [WO 2004/022322 to Caretta et al. and the article entitled "Plastics Processing" from Kirk-Othmer Encyclopedia of Chemical Technology].

Ogawa, Harris and Blieberger are applied for substantially the same reasons as set forth in the last office action. The previously applied Cartwright and Birdsall references have been removed from the rejection in favor of newly cited Ekins and Coupland. In particular, Ekins provides evidence of the well known problem oozing of a material extruded under pressure from a nozzle after additional feeding pressure is stopped. To avoid this problem, Ekins suggests effecting a rearward movement of the pressurizing piston to quickly relieve the pressure and thereby stop the feeding operation - e.g. col. 1, lines 15-61). Likewise, Coupland evidences an understanding

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that typically a plastic material extruded under high pressure will continue to flow from the nozzle after feeding has stopped as the pressure is gradually lowered (e.g. col. 1, lines 40-59). To avoid this problem, Coupland describes various measures including performing a limited reverse movement of the extruder to provide reward pressure relief - esp. col. 2, lines 55-63). In view of the teachings of at least one of Ekins, Coupland, Harris and Blieberger, exerting a counter pressure as claimed after extrusion stoppage in the Ogawa process would have been obvious to help control flow of the material after stoppage - only the expected and predictable results would have been achieved.

As to the new claim language, each of the secondary references would teach the ordinary artisan that the reverse movement of the extrusion should be for a period of time. It would have been readily apparent that this period of time would have been that necessary to eliminate the residual pressure in the nozzle that would be causing the material to continue to extrude from the nozzle. The particular time as well as the final level of remaining pressure would have been readily and routinely optimized by the ordinary artisan to achieve sufficient reduction in the residual pressure so that the material no longer exits the extruder. Further, it is submitted that the ordinary artisan would have understood that any pressure relief/reduction beyond the level required to stop the flow would be unnecessary. As would have been readily apparent, the values of this time and ultimate residual pressure would have been parameters that would have been highly dependent upon the properties of the material being extruded as well as the pressure of extrusion and extruder configuration. Such parameters would however have been readily and routinely selected to achieve the desired release of sufficient

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pressure to stop the material "drool". Note also that Blieberger evidences an understanding in this art that the time for the reverse piston movement (generating the counter pressure) would be determined based upon the viscosity of the material being extruded (col. 5, lines 36-46). The new reference to the time/pressure being "predetermined to result in the elastomeric material ... reaching a sufficient pressure to ensure reproducibility of the elongated element" is not considered to define any unobvious requirement beyond what would have been taught in the secondary references. In particular, since the goal of creating the counter pressure in the secondary references is to relieve pressure and eliminate continued extrusion of the material, they are necessarily enhancing reproducibility since the nozzle remains full of the material to be extruded rather than being partially emptied.

WO '322 to Caretta et al. (esp. page 11, line 21 - page 12, line 1 suggesting 550-650 bar) and the "Plastics Processing" article from Kirk-Othmer Encyclopedia of Chemical Technology (esp. section "1.1 Extrusion" suggesting that typical extrusion pressures are as high as 7500 psi (= 517 bar)) have been optionally cited as additional evidence that extrusion is typically a high pressure process (inclusive of pressure values consistent with that of the dependent claims) that would have been expected to be susceptible to flow after stopping the extruder. Further, as already noted, the particular level to which the pressure should be dropped to would have been readily and routinely optimized by the ordinary artisan so as to stop the flow, the claimed 10-50 bar values being significantly lower than typical operating pressures (e.g. in view of WO '322 and

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the cited article) and thus not being inconsistent with what would have been expected following the teachings of the references.

4. Applicant's arguments filed 1/22/2010 have been fully considered but they are not persuasive.

Applicant's arguments stress the new language added to the claims with respect to reproducibility, these arguments being treated within the statement of rejection above. As noted in the statement of rejection, since the goal of creating the counter pressure in the secondary references is to relieve pressure and eliminate continued extrusion of the material, they are necessarily enhancing reproducibility since the nozzle remains full of the material to be extruded after stoppage rather than being partially emptied. It is not seen that the claimed broad reference to "reproducibility" defines over this.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
March 26, 2010